

## § 157.214

reservoir, including both the storage formation and the caprock, including summary analysis of any recent cross-sections, well logs, quantitative porosity and permeability data, and any other relevant data for both the storage reservoir and caprock;

(2) The latest isopach and structural maps of the storage field, showing the storage reservoir boundary, as defined by fluid contacts or natural geological barriers; the protective buffer boundary; the surface and bottomhole locations of the existing and proposed injection/withdrawal wells and observation wells; and the lengths of open-hole sections of existing and proposed injection/withdrawal wells;

(3) Isobaric maps (data from the end of each injection and withdrawal cycle) for the last three injection/withdrawal seasons, which include all wells, both inside and outside the storage reservoir and within the buffer area;

(4) A detailed description of present storage operations and how they may change as a result of the new facilities or modifications. Include a detailed discussion of all existing operational problems for the storage field, including but not limited to gas migration and gas loss;

(5) Current and proposed working gas volume, cushion gas volume, native gas volume, deliverability (at maximum and minimum pressure), maximum and minimum storage pressures, at the present certificated maximum capacity or pressure, with volumes and rates in MMcf and pressures in psia;

(6) The latest field injection/withdrawal capability studies including curves at present and proposed working gas capacity, including average field back pressure curves and all other related data;

(7) The latest inventory verification study for the storage field, including methodology, data, and work papers;

(8) The shut-in reservoir pressures (average) and cumulative gas-in-place (including native gas) at the beginning of each injection and withdrawal season for the last 10 years; and

(9) A detailed analysis, including data and work papers, to support the need for additional facilities (wells, gathering lines, headers, compression, dehydration, or other appurtenant fa-

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cilities) for the modification of working gas/cushion gas ratio and/or to improve the capability of the storage field.

[Order 686, 71 FR 63693, Oct. 31, 2006, as amended by Order 686–A, 72 FR 37436, July 10, 2007]

### § 157.214 Increase in storage capacity.

(a) *Prior notice.* Subject to the notice requirements of § 157.205, the certificate holder is authorized to increase the maximum volume of natural gas authorized to be stored in a storage field to the extent that geological data and operating experience have demonstrated that a volume of natural gas greater than that currently certificated may be safely stored without the construction of additional facilities.

(b) *Contents of request.* In addition to the requirements of § 157.205(b), requests filed for activities described in paragraph (a) shall contain:

(1) Current and requested maximum storage capacity;

(2) Current and requested maximum storage pressure;

(3) Average depth of the storage formation;

(4) Copies of any geological or engineering studies that demonstrate the feasibility of the increase in storage volume; and

(5) A statement setting forth the purpose of the proposed increased capacity.

(c) *Reporting requirements.* For any storage facility whose capacity is increased pursuant to this section, the certificate holder shall submit, in the manner prescribed in § 385.2011 of this chapter, semi-annual reports (to coincide with the termination of the injection and withdrawal cycles) containing the information listed in subdivisions (1) through (8) of this paragraph. The certificate holder shall continue to file semi-annual reports until the storage inventory volume has reached, or closely approximates, the maximum specified in the request. Thereafter, the reports shall continue on a semi-annual basis for a period of one year. The filing of reports shall be discontinued thereafter unless otherwise ordered by the Commission. (Volumes shall be stated at 14.73 psia and 60 °F, and pressures shall be stated in psia.)

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(1) The daily volume of natural gas injected into and withdrawn from the storage reservoir.

(2) The volume of natural gas in the reservoir at the end of the reporting period.

(3) The maximum daily injection or withdrawal rate experienced during the reporting period and the average working pressure on such maximum days taken at a central measuring point where the total volume injected or withdrawn is measured.

(4) Results of any tracer program by which the leakage of injected gas may be determined. If the leakage of gas exists, the report should show the estimated total volume of gas leakage, the volume of recycled gas and the remaining inventory of gas in the reservoir at the end of the reporting period.

(5) Any surveys of pressures in gas wells, water levels in observation wells, pump test results for the aquifer-type reservoirs, and the results of back-pressure tests conducted during the reporting period.

(6) The latest revised structure and isopachous contour maps showing the location of the wells, the location and extent of the gas bubble in the storage reservoir for aquifer-type reservoirs and in any other reservoirs of the project in which gas bubbles are known to exist. This map need not be filed if there is no material change from the map previously filed.

(7) Discussion of current operating problems and conclusions.

(8) Such other data or reports which may aid the Commission in the evaluation of the storage project.

[Order 234, 47 FR 24266, June 4, 1982, as amended by Order 493, 53 FR 15030, Apr. 27, 1988]

### § 157.215 Underground storage testing and development.

(a) *Automatic authorization.* The certificate holder is authorized to acquire, construct and operate natural gas pipeline and compression facilities, including injection, withdrawal, and observation wells for the testing or development of underground reservoirs for the possible storage of gas, if:

(1) The testing and development of a particular storage project will be completed within a three-year-period;

(2) The quantity of natural gas injected into the prospective storage fields pursuant to the blanket certificate does not exceed a total of 10,000,000 Mcf at any time in all fields with no more than 2,000,000 Mcf injected into any single field;

(3) Gas will be injected for testing purposes only during off-peak periods;

(4) The storage field developed pursuant to this section will not be utilized to render service without further authorization from the Commission, except that gas may be withdrawn on occasion for testing purposes; and

(5) The total expenditures per calendar year pursuant to this section do not exceed the amount specified in Table II as adjusted pursuant to § 157.208(d). These costs shall include expenditures for leases, wells, pipeline, compressors, and related facilities, but shall exclude the cost of the natural gas to be used for testing purposes.

TABLE II

Year	Limit
1982 .....	\$2,700,000
1983 .....	2,900,000
1984 .....	3,000,000
1985 .....	3,100,000
1986 .....	3,200,000
1987 .....	3,300,000
1988 .....	3,400,000
1989 .....	3,500,000
1990 .....	3,600,000
1991 .....	3,800,000
1992 .....	3,900,000
1993 .....	4,000,000
1994 .....	4,100,000
1995 .....	4,200,000
1996 .....	4,300,000
1997 .....	4,400,000
1998 .....	4,500,000
1999 .....	4,550,000
2000 .....	4,650,000
2001 .....	4,750,000
2002 .....	4,850,000
2003 .....	4,900,000
2004 .....	5,000,000
2005 .....	5,100,000
2006 .....	5,250,000
2007 .....	5,400,000
2008 .....	5,550,000
2009 .....	5,600,000
2010 .....	5,700,000
2011 .....	5,750,000
2012 .....	5,850,000
2013 .....	6,000,000
2014 .....	6,100,000

(b) *Reporting requirements*—(1) *Annual reports.* For any storage project tested or developed pursuant to this section, the certificate holder shall file, in the manner prescribed in §§ 157.6(a) and